

## AMENDMENTS TO THE CLAIMS

1-4. (Cancelled)

5. (Currently amended) A system as claimed in claim 10, wherein the gateway mobile terminal is further configured to:

~~does not register in the cellular carrier network as it moves from the wireless local area network into the cellular carrier network and~~

receive an indication of a handoff;

~~sending the mobile terminal inherits call parameters to the mobile terminal; of the controller and switches its~~

instructs the mobile terminal to switch a radio to the cellular carrier network using the call parameters.

6. (Currently amended) A system as claimed in claim 10, wherein the gateway is further configured to perform controller implements TDMA-to-VoIP conversion.

7. (Currently amended) A ~~flexible~~ method of handling calls between a wireless local area network of an enterprise and a cellular carrier network for a mobile terminal that is capable of communicating over the wireless local area network and the cellular carrier network, the method comprising:

~~a controller~~ registering and emulating the mobile terminal on the cellular carrier network when the mobile terminal is communicating via the wireless local area network within the enterprise;

~~the controller~~ receiving, via a fixed radio terminal, calls from the cellular carrier network[[],] ; and

~~the controller~~ routing the calls received from the cellular carrier network to the mobile terminal ~~over~~ via the wireless local area network; ~~and~~

~~the controller maintaining the calls to the mobile terminal by maintaining the calls over the cellular carrier network and through the fixed radio terminal and over the wireless local area network to the mobile terminal, which is communicating via the wireless local area network.~~

8-9. (Cancelled)

10. (Currently amended) A system for managing calls between a wireless local area network (wireless LAN) and a cellular carrier network, the system comprising:

~~a dual mode mobile terminal capable of communicating over the wireless local area network and the cellular carrier network; and~~

a fixed radio terminal configured to communicate with the cellular carrier network and to emulate a mobile terminal on the cellular carrier network;

~~a controller that~~ gateway configured to:

receive a registration message from the mobile terminal via the wireless LAN;

~~registers and emulates~~ register the mobile terminal on the cellular carrier network via the fixed radio terminal; ~~when the mobile terminal is communicating via the wireless local area network, the~~

receive one or more calls from the cellular carrier network ~~being received~~ via ~~[[a]]~~ the fixed radio terminal of the controller, and

route ~~the controller routing~~ the one or more calls received from the cellular carrier network to the mobile terminal over the wireless local area network[[,]]

~~wherein each of the calls is maintained by the controller over the cellular carrier network and through the fixed radio terminal and over the wireless local area network to the mobile terminal, which is communicating via the wireless local area network.~~

11. (Cancelled)

12. (Currently amended) A system as claimed in claim 10, wherein the mobile terminal is configured to be assigned two telephone numbers, one for the cellular carrier network and one for a private branch exchange.

13. (Currently amended) A system as claimed in claim 12, wherein the gateway is further configured to:

receive calls placed to either the telephone number of the cellular carrier network or to

~~the telephone number of the private branch exchange are received by the controller and routed~~  
route the received calls to the mobile terminal via the wireless local area network when  
the mobile terminal is on the wireless local area network ~~and calls placed to the telephone~~  
~~number of the private branch exchange are received by the controller and routed to the terminal~~  
~~via the wireless local area network when the mobile terminal is on the local area network.~~

14. (Currently amended) A system as claimed in claim 10, wherein the mobile terminal is  
further configured to:

attempt ~~attempts~~ to register with the wireless local area network; and  
register ~~only registers~~ with the cellular carrier network ~~[[if]]~~ when registration with the  
wireless local area network is unsuccessful.

15. (Currently amended) A system as claimed in claim 10, wherein the mobile terminal is  
configured to monitor one or more ~~calls are monitored~~ for call quality over the wireless local area  
network.

16. (Currently amended) A system as claimed in claim 15, wherein ~~when the call quality~~  
~~degrades to a threshold,~~ the mobile terminal is further configured to switch ~~switches~~ to  
communicating over the cellular carrier network when the call quality of a received call degrades  
below a threshold value.

17. (Currently amended) A system as claimed in claim 16, wherein ~~[[if]]~~ the gateway is  
further configured to call a telephone number of the mobile terminal on the cellular carrier  
network when the received call is ~~[[on]]~~ with a party in the public switched telephone network  
(PSTN) ~~a phone number of a private branch when mobile terminal is switching to~~  
~~communicating over the cellular carrier network, then the controller calls a telephone number of~~  
~~the mobile terminal on the cellular carrier network and routes the call to the mobile terminal~~  
~~through the cellular carrier network.~~

18. (Currently amended) A system as claimed in claim 17, wherein ~~[[if]]~~ the gateway is  
further configured to receive a ~~the call is on~~ placed to the ~~[[a]]~~ phone number of the cellular

~~carrier network, when mobile terminal is switching to communicating over the cellular carrier network, then the controller functions to handoff the call to the mobile terminal, which then activates communications for the cellular carrier network.~~

19. (Currently amended) A system as claimed in claim ~~[[16]]~~ 18, wherein ~~[[if]]~~ the gateway is further configured to:

receive parameters of the call placed to the phone number of the cellular carrier network;  
and

forward the parameters to the mobile terminal

~~the call is a phone number of the cellular carrier network, when mobile terminal is switching to communicating over the cellular carrier network, then the controller functions to handoff the call to the mobile terminal, which then activates communications for the cellular carrier network.~~

20. (Currently amended) A system as claimed in claim 10, wherein the mobile terminal is configured to monitor one or more calls ~~are monitored~~ for call quality over the cellular carrier network.

21. (Currently amended) A system as claimed in claim 20, wherein ~~when the call quality degrades to a threshold,~~ the mobile terminal is further configured to switch ~~switches~~ to communicating over the cellular carrier network when the call quality of a received call from the cellular carrier network degrades below a threshold value.

22. (Currently amended) A system as claimed in claim 21, wherein the gateway is further configured to:

determine that ~~when~~ the call quality of a given call degrades to the threshold~~[[,]]~~;  
and responsive to determining the call quality of the given call has degraded to the threshold,

monitor ~~the controller monitors~~ communications for the mobile terminal on the cellular carrier network, ~~maintaining the call~~ and

send ~~sends~~ communications to the mobile terminal via the local area network

and communications from the mobile terminal to the cellular carrier network via a fixed antenna.

23. (Currently amended) A system for managing calls between a wireless local area network and a cellular carrier network, the system comprising:

a ~~dual-mode~~ mobile terminal capable of communicating over the wireless local area network and the cellular carrier network; and

a ~~controller~~ gateway that registers and emulates the mobile terminal on the cellular carrier network, when the mobile terminal is communicating via the wireless local area network, the calls from the cellular carrier network being received via a fixed radio terminal of the ~~controller~~ gateway, the ~~controller~~ gateway routing calls received from the cellular carrier network to the mobile terminal over the wireless local area network, ~~wherein each of the calls to the mobile terminal is maintained over the cellular carrier network and through the fixed radio terminal and over the wireless local area network to the mobile terminal, when the mobile is communicating via the wireless local area network;~~

wherein the mobile terminal is assigned two telephone numbers, one for the cellular carrier network and one for a private branch exchange and calls placed to the telephone number of the cellular carrier network are received by the fixed radio terminal of the ~~controller~~ gateway and routed to the mobile terminal via the wireless local area network when the mobile terminal is on the local area network and calls placed to the telephone number of the private branch exchange are received by the ~~controller~~ gateway and routed to the mobile terminal via the wireless local area network when the mobile terminal is on the local area network;

wherein the mobile terminal attempts to register with the wireless local area network and only registers with the cellular carrier network if registration with the wireless local area network is unsuccessful;

wherein if ~~the~~ a call is placed to ~~[[on]]~~ a phone number of a private branch exchange~~[[,]]~~ while the ~~when~~ mobile terminal is communicating over the cellular carrier network, then the ~~controller~~ gateway calls a telephone number of the mobile terminal on the cellular carrier network and routes the call to the mobile terminal through the cellular carrier network; ~~and~~

~~wherein if the call is on a phone number of the cellular carrier network, when mobile terminal is communicating over the cellular carrier network, then the controller handoffs the call~~

~~to the mobile terminal, which then activates communications for the cellular carrier network.~~

24. (Cancelled)

25. (Currently amended) A system as claimed in claim 10, wherein the gateway is further configured to perform ~~controller implements~~ CDMA-to-VoIP conversion.

26. (Currently amended) A method as claimed in claim 7, further comprising: ~~the mobile terminal inheriting call parameters; of the controller and~~  
switching a radio to the cellular carrier network using the call parameters ~~when~~ responsive to the mobile terminal moving ~~moves~~ from the wireless local area network into the cellular carrier network.

27. (Previously presented) A method as claimed in claim 7, further comprising assigning the mobile terminal two telephone numbers, one for the cellular carrier network and one for a private branch exchange of the enterprise.

28. (Currently amended) A method as claimed in claim 27, further comprising:  
for calls placed to the telephone number of the cellular carrier network, receiving the calls at the fixed radio terminal ~~of the controller~~ and routing the calls to the mobile terminal via the wireless local area network when the mobile terminal is on the wireless local area network; and  
for calls placed to the telephone number of the private branch exchange, receiving the calls ~~by the controller~~ and routing the calls to the terminal via the wireless local area network when the mobile terminal is on the local area network.

29. (Previously presented) A method as claimed in claim 7, further comprising the mobile terminal attempting to register with the wireless local area network and only registering with the cellular carrier network if registration with the wireless local area network is unsuccessful.

30. (Currently amended) A method as claimed in claim 7, further comprising monitoring ~~calls~~ a call for call quality over the wireless local area network.

31. (Currently amended) A method as claimed in claim 30, further comprising, when the call quality degrades to a threshold, ~~the mobile terminal switches~~ switching to ~~communicating over~~ the cellular carrier network.

32. (Currently amended) A method as claimed in claim 30, further comprising:  
~~if responsive to determining~~ the call is on a phone number of a private branch exchange of the enterprise ~~when while mobile terminal is switching to communicating over~~ the cellular carrier network, ~~then calling the controller calls~~ a telephone number of the mobile terminal on the cellular carrier network and ~~routes~~ routing the call to the mobile terminal through the cellular carrier network.

33. (Currently amended) A method as claimed in claim 30, further comprising[[,]]:  
~~if responsive to determining~~ the call is on a phone number of the cellular carrier network when ~~the mobile terminal is switching to communicating over~~ the cellular carrier network, ~~then the controller handoffs~~ handing off the call to the mobile terminal, ~~which then activates communications for the cellular carrier network.~~

34. (New) A method, comprising:  
registering a mobile terminal via a wireless local area network;  
establishing a TCP connection to the mobile terminal via the wireless local area network;  
establishing a wireless connection with a cellular carrier network on behalf of the mobile terminal;  
receiving a cellular call intended for the mobile terminal from the cellular carrier network and routing the call to the mobile terminal via the TCP connection;  
receiving a handoff request from the mobile terminal; and  
responsive to the handoff request, transmitting cellular call parameters to the mobile terminal via the TCP connection, wherein the cellular call parameters comprise a channel or code to use.

35. (New) The method of claim 34, further comprising:  
instructing the mobile terminal to switch a radio to the cellular carrier network based on

the call parameters.

36. (New) The method of claim 34, further comprising:

closing the TCP connection; and

ceasing communications on behalf of the mobile terminal in the cellular carrier network.

37. (New) A method, comprising:

receiving a message from a mobile device, wherein the information comprises parameters about an in-progress call;

establishing a connection with the mobile device via a wireless local area network;

listening on a channel of a cellular carrier network used by the mobile device in the in-progress call; and

relaying information about the in-progress call between the mobile device and the cellular carrier network.

38. (New) The method of claim 37, wherein the message is a short message service (SMS) message.

39. (New) The method of claim 37, wherein establishing a connection with the mobile device comprises:

sending an authentication message to an authentication server to authenticate the mobile device;

receiving a location of the mobile device and network configuration parameters from the authentication server; and

establishing a TCP connection to the mobile device based on the location of the mobile device;

40. (New) The method of claim 37, further comprising:

after the in-progress call has terminated, listening on a paging channel of the cellular carrier network for calls destined for the mobile device.